

3Test Intention:

In test 4869 we want to investigate the lifespan of CF77.UL.03.04.INI in an e-chain with a 35mm radius.

Client:

Name: Christian Mittelstedt Team: chainflex® Date: 11.10.2013

Order-Info:

Customer / No.: igus® GmbH, Spicher Str.1a, 51147 Köln

Series / No: CF77.UL.D Installation type: horizontal, short way

Customer test: Yes No Development test: Yes No

Technical data

Target & Examination

e-chain® type: 1500.100.035.0

Target [strokes]: **Lifespan**

e-chain® radius [mm]: 35

Optical check:

Stroke [m]: 0,8

Function check:

Ambient temperature [°C]: approx. 25°C

Standard measuring:

Cable length [m]: 2,5

AutΩMeS:

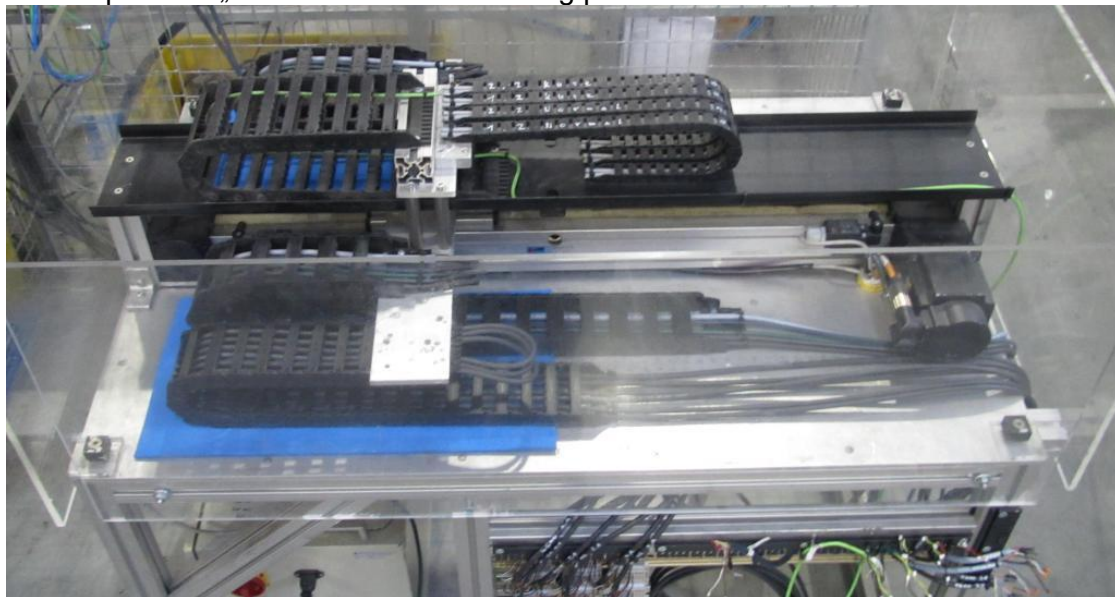
Experimental setup

Checklist for the experimental preparations

- additional inscription/label at all wires
- strain reliefs at both ends of the chain
- correct electrical connection of all wires
- radius was marked at the cables and the energy chain

1. Construction:

This test is built up on the „kleine Bahr“. The following picture shows the test structure:



2. Cable and hose packages:

No. 1: **1x CF77.UL.03.04.INI** with the cable marking
*07914m igus chainflex CF77.UL.03.04.INI.D 4x0,34 300/500V E310776 F cULus AWM Style
 20223 VW-1 AWM I/II A/B 80°C 1000V FT-1 CE F P/BD DESINA RoHS-II conform www.igus.de*

3. Description of the cable construction:

Standard igus chainflex® catalogue cable

4. Remarks:

To detect broken conductor or shielding wires we will measure the ohmic resistance of these cable elements. The cores of the samples are connected in series to measure the ohmic resistances.

The following chart gives an overview regarding the test parameters:

Cable no.	Cable type	E-chain radius [mm]	External diameter [mm]	Bending factor [xd]	Bending factor catalogue [xd]
1.X	CF77.UL.03.04.INI	35	5,5	6,4	6,8

Cable no.	Cable type	Counter reading		Effectively tested strokes	Cable okay after ... strokes
		... mounting	... demounting		
1.1	CF77.UL.03.04.INI	66.944.558	89.181.962	22.237.404	22.237.404

Test-order was checked by ... [Martin Göllner or Rainer Rössel and further employee]

Date:	11.10.2013	Name:		Name:	Christian Mittelstedt
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Result

Start report 14.10.2013:

At the 15.10.2013 we started the test 4869 at a counter reading of 66.944.558, we will measure the ohmic resistance regularly.

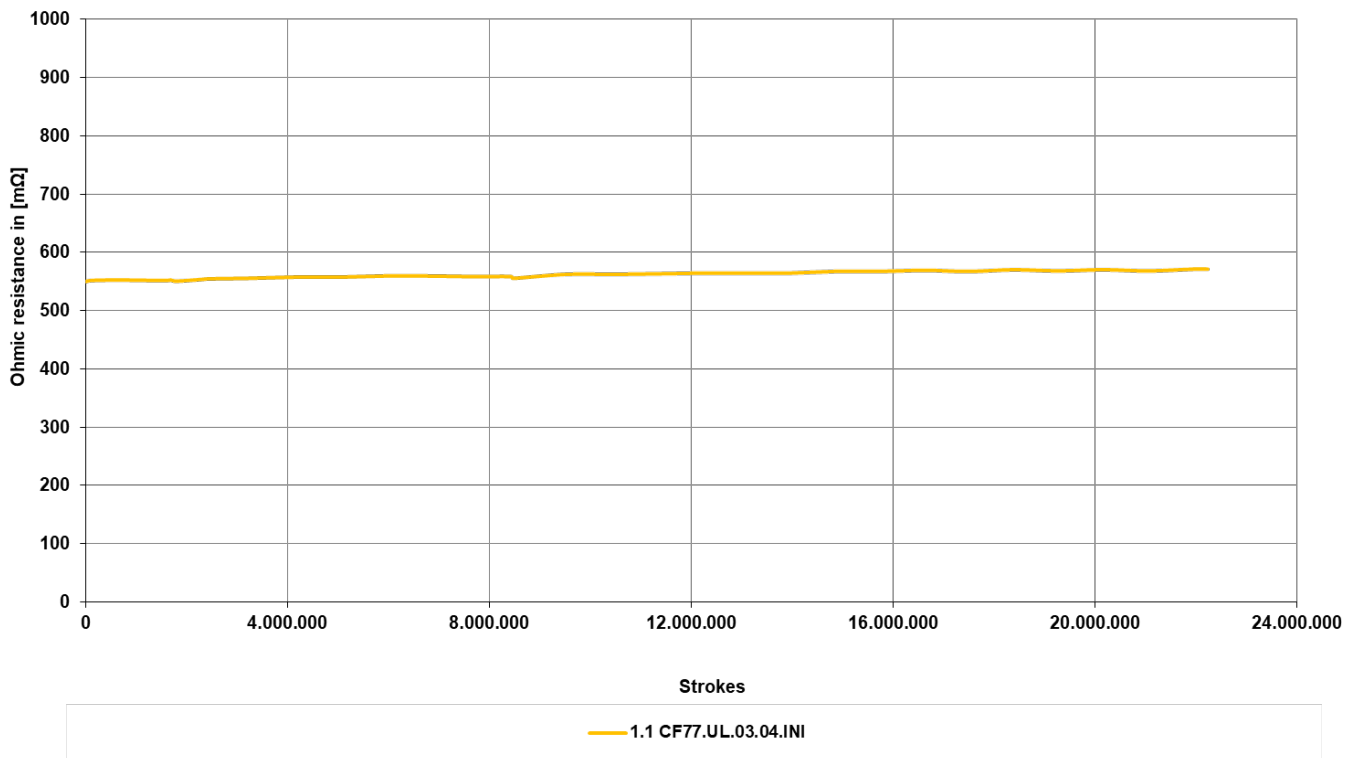
Interim report 05.05.2014:

At the 05.05.2014 we demounted the cable no. 1.1 after 22.237.404 strokes, because we wanted to finalize the test.

The following diagram shows the trend of the ohmic resistances during the test:



Trend of the ohmic resistances

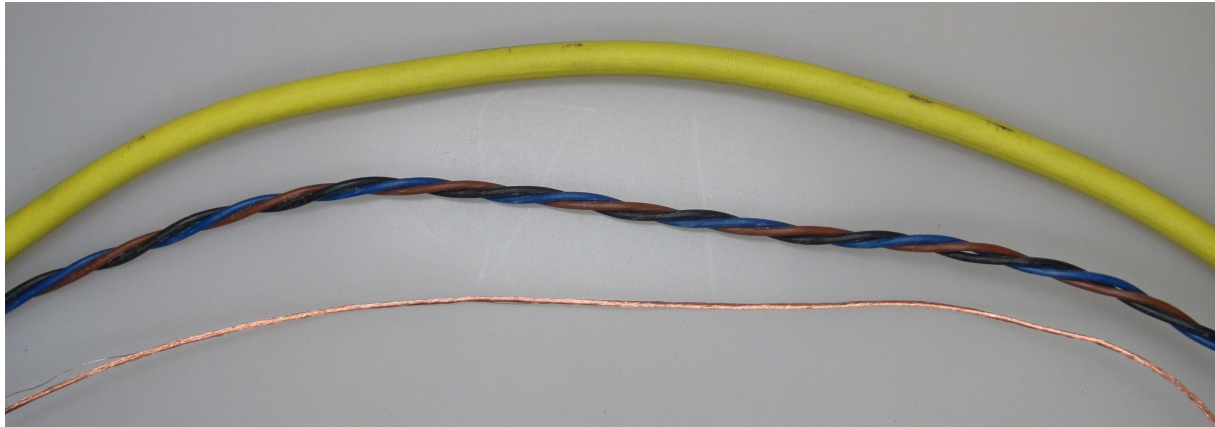


Evaluation

Dissection report:

The following pictures show the dissected elements of the cable

The condition of the cable no.1.1 (CF77.UL.03.04.INI) after 22.237.404 strokes



Strokes	22.237.404
Condition outer jacket	O.K.
Condition core insulation	O.K.
Condition conductor	O.K.

Name: **R. 7hoß**

Date: **05.05.2014**